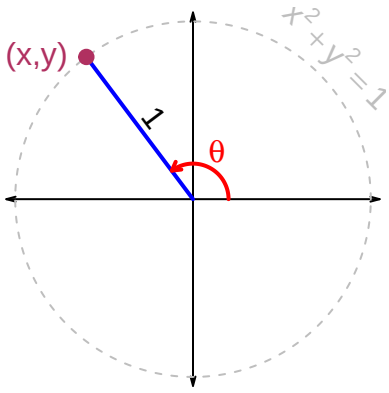
Unit-circle trigonometry cheat sheet



Definitions

$$\sin(\theta) = y \qquad \cos(\theta) = x \qquad \tan(\theta) = \frac{y}{x} = \frac{\sin(\theta)}{\cos(\theta)} = \text{slope}$$

Pythagorean Identities

$$\sin^2(\theta) + \cos^2(\theta) = 1 \qquad |\sin(\theta)| = \sqrt{1 - \cos^2(\theta)} \qquad |\cos(\theta)| = \sqrt{1 - \sin^2(\theta)}$$

$$\tan^2(\theta) + 1 = \frac{1}{\cos^2(\theta)} \qquad |\tan(\theta)| = \sqrt{\frac{1 - \cos^2(\theta)}{\cos^2(\theta)}} \qquad |\cos(\theta)| = \sqrt{\frac{1}{\tan^2(\theta) + 1}}$$

$$\tan^2(\theta) + 1 = \frac{1}{1 - \sin^2(\theta)} \qquad |\tan(\theta)| = \sqrt{\frac{\sin^2(\theta)}{1 - \sin^2(\theta)}} \qquad |\sin(\theta)| = \sqrt{\frac{\tan^2(\theta)}{\tan^2(\theta) + 1}}$$